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Publication date:
2018

Document version
Early version, also known as pre-print

Optimization of ecological leisure industrial planning based on improved GIS-AHP: A case study in Shapingba District, Chongqing, China

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With the rapid development of the leisure economy in recent years, an increasing number of cities focus on the development of leisure industry, however, traditional leisure industry planning often does not consider wider sustainability goals or negative environmental impacts. It has become an urgent issue for governments, planners and scholars to find more scientific methodology and develop theory from empirical case studies to solve this issue. To contribute to a more ecological leisure industry, this study sought a scientific methodology for ecological leisure industry planning by applying big datasets. We use point of interest data (POI) and spatial syntax to account for effects of the urban road network. This is incorporated into a GIS-AHP approach, developing this method further. We demonstrate the method in the leisure industry in Shapingba District of Chongqing, China. We apply a comparative analysis of the results of site selection in an ecological leisure industry and the existing spatial layout. We concluded: 1) Traffic accessibility has significance for the spatial layout and structure of an ecological leisure industry. 2) Apply the concept of ecology to the actual eco-leisure industry layout 3) Network spatial structure is a direction for the future development of an ecological leisure industry.

Keywords: Eco-leisure industry, Geographic information system (GIS), Analytic hierarchy process (AHP), Spatial syntax, Point of interest (POI)

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